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AIR POLLUTION ABATEMENT BY FEDERAL FACILITIES

Department of Health, Education, and Welfare
Washington, D. C.

January 1969

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AIR POLLUTION ABATEMENT BY FEDERAL FACILITIES

REPORT

OF THE

SECRETARY OF HEALTH, EDUCATION,
AND WELFARE

TO THE

UNITED STATES CONGRESS

PURSUANT TO

PUBLIC LAW 90-148

THE AIR QUALITY ACT OF 1967

January 1969

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TABLE OF CONTENTS

SECTION		PAGE
I.	INTRODUCTION	1
II.	ABATEMENT PLAN	3
III.	EXEMPTIONS	5
IV.	REMEDIAL ACTIONS	8
V.	WASHINGTON, D. C. METROPOLITAN AREA	11
VI.	MISCELLANEOUS ACTIVITIES	15
VII.	CONCLUSION	19
	APPENDIX A	20
	APPENDIX B	34
	APPENDIX C	35

I. INTRODUCTION

The Air Quality Act of 1967, as did the earlier Clean Air Act, as amended, emphasizes the need for Federal leadership and assistance to State and local agencies in the control of air pollution. The Act also indicates that the Federal agencies shall cooperate with the Department of Health, Education, and Welfare and with any air pollution control agency in preventing and controlling air pollution. It also provides, at the discretion of the Secretary, for the establishment of classes of air pollution sources for which limited permits could be issued, and it further requires the Secretary to submit an annual report to the Congress on the status of such permits and compliance therewith.

In addition to this Act, the program of abatement and control of air pollution from Federal facilities is governed by Executive Order 11282, dated May 26, 1966, entitled, "Control of Pollution Originating from Federal Installations;" the "Performance Standards and Techniques of Measurement" prescribed by the Secretary of Health, Education, and Welfare, issued June 2, 1966, and subsequently amended, in response to "Section 5 Standards" of Executive Order 11282; Bureau of the Budget Circular No. A-78 issued on August 6, 1966, to the heads of executive departments and establishments.

The issuance of limited exemptions, as provided under the Executive Order, has been used as a control device, rather than development of a permit system, as authorized in the Air Quality Act of 1967.

The staff of the Federal Facilities Section, National Air Pollution Control Administration, devotes full time to the surveillance of air pollution problems arising from Federal activities, the extension of technical assistance to agencies and departments and to studies for scheduling necessary improvements to control emissions from Federal establishments. This staff also assists the Bureau of the Budget in technical and administrative review of the five-year phased and orderly plans prepared by the various Governmental groups concerned in this abatement activity.

II. ABATEMENT PLAN

As called for by Executive Order 11282 and Bureau of the Budget Circular No. A-78, the departments and agencies submitted revisions of their original phased and orderly plans on July 1, 1968, and also, for the first time, furnished reports of progress on projects which could be funded within available appropriations.

The revised plans are concerned principally with proposed abatement actions to be undertaken during FY 1970. Appendix A contains the detailed proposals for abatement activities which have been recommended for funding by the Bureau of the Budget for FY 1970.

On June 20, 1968, the Secretary of Health, Education, and Welfare announced that 32 Air Quality Control Regions would be designated during the next twelve months. These regions, in the order in which designation is expected to occur, are the following:

1. Washington, D. C.
2. New York
3. Chicago
4. Philadelphia
5. Denver
6. Los Angeles
7. St. Louis
8. Boston
9. Cincinnati
10. San Francisco
11. Cleveland
12. Pittsburgh
13. Buffalo
14. Kansas City
15. Detroit
16. Baltimore
17. Hartford
18. Indianapolis
19. Minneapolis-St. Paul
20. Milwaukee
21. Providence
22. Seattle-Tacoma
23. Louisville
24. Dayton
25. Phoenix
26. Houston
27. Dallas-Ft. Worth
28. San Antonio
29. Birmingham
30. Toledo
31. Steubenville
32. Chattanooga

Under the Air Quality Act of 1967, designation of Regions is a fundamental step leading toward action by State governments to adopt and enforce standards to control air pollution on a regional basis.

Once Regions are designated, the Air Quality Act of 1967 requires that States set ambient air quality standards for the Regions within nine months following the publication of criteria for particular pollutants. An additional six months are allowed for the development of an implementing plan which would include emission standards for pollution sources. This standard-setting process is expected to begin in the first Regions early in calendar year 1969.

Almost all of the Federal facility projects included in the President's Budget for FY 1970 are located in the 32 Air Quality Control Regions listed above. The funding of these projects will permit Federal facilities to provide leadership in abating air pollution in these Regions.

A few additional projects are included in the President's 1970 budget because they are violations of local codes or are designated to abate toxic emissions which involve imminent danger to health. A project at one installation is included because of excessive complaints from the public.

III. EXEMPTIONS

The Department of Defense requested and was granted a one-year exemption (to October 1, 1969) from the provisions of Section 76.5, Title 42, Code of Federal Regulations, Part 76, dated March 17, 1967. This Section required control of sulfur oxide emissions in the Chicago and New York Standard Consolidated Areas and the Standard Metropolitan Statistical Area of Philadelphia by October 1, 1968. It was impossible for the Department of Defense to meet this deadline with regard to a number of its facilities which require large capital expenditures for conversion of their boilers. The Department's FY 1969 budget had progressed too far to allow the changes necessary to provide for these conversions. The President's FY 1970 budget will allow the Department to undertake substantially all of these conversions.

The Atomic Energy Commission requested an exemption from the provisions of the same Section requiring control of sulfur oxides in the New York and Chicago Standard Consolidated Areas for the Brookhaven and the Argonne National Laboratories, respectively. The request was based on the denial of funds by the Joint Committee on Atomic Energy for conversion to lower sulfur fuels at these Laboratories. An exemption for one year (to October 1, 1969) has been granted to the Atomic Energy Commission for the Argonne and Brookhaven sites on the proviso that the Commission

again request funds for FY 1970 to convert the heating plant at Argonne to natural gas and that efforts be made to secure 1 percent sulfur fuel oil for Brookhaven.

The Joint Committee on Atomic Energy in its denial of funds for FY 1969, urged a delay in the Argonne project pending an expected breakthrough on research which would produce an economically acceptable method of removing sulfur oxides from stack gases. Atomic Energy Commission representatives have been informed by the National Air Pollution Control Administration that the current research on developing control techniques for removing sulfur oxides from stack gases is directed to produce methodology suited for control of large fossil fuel burning power generating sources and not directed to heating plants as small as that at Argonne National Laboratory. This Laboratory is within the boundaries of the Metropolitan Chicago Interstate Air Quality Control Region, which is identical to the Chicago Standard Consolidated Area. Since the Region will be expected to have air pollution control standards and regulations within the next 15 months, a conversion of this facility now would be consistent with providing Federal leadership, as called for in Executive Order 11282.

The Department of Transportation requested, and was granted, a one-year exemption for fuel conversion at the Coast Guard Base on Governor's Island, New York. This Base is partially converted to burn number 2 distillate fuel oil, and the exemption was granted

with the proviso that conversion be completed as soon as additional funds become available. It is expected that this task will be completed before October 1, 1969.

Similarly, the Department of Agriculture requested an exemption from the sulfur-oxide regulation for the heating plant at the Plum Island, Long Island, Animal Disease Laboratory. A one-year exemption also was granted in this case, on the proviso that the Laboratory use the lowest possible sulfur content fuel oil which can be obtained from the General Services Administration for use at this site.

IV. REMEDIAL ACTIONS

Actions to abate air pollution from Federal facilities were reported this year, for the first time, to the Bureau of the Budget. As required by Bureau of the Budget Circular No. A-78, these reports arrived on July 1, 1968, and reflect conditions as of April 1, 1968.

A summary of the reports reveals that 442 remedial actions were reported for 387 installations located in 45 States, the District of Columbia, Puerto Rico, and Guam. With few exceptions, the remedial actions fall into the following categories:

1. Elimination of open burning of refuse.
2. Installation of new incinerators or upgrading of existing incinerators to meet Federal regulations.
3. Reduction of particulate emissions from heating and power plants by:
   a. Repairs to old plants.
   b. Construction of new plants.
   c. Improvement of particulate collectors.
   d. Installation or improvement of particulate monitors.
   e. Conversion from coal to either gas or fuel oil.
4. Reduction of sulfur oxide emissions from heating plants by:
   a. Using same type of fuel but of lower sulfur content.
   b. Converting to a different fuel of lower sulfur content.

5. Reduction of gasoline and solvent vapor losses from storage tanks.
6. Awarding of contracts during the year to remedy specific situations.
7. Initiation of studies, design and/or engineering actions to prepare cost estimates.

Appendix B presents an overall summary of accomplishments by agency and by remedial action category.

Appendix C presents a detailed list of installations, arranged by agency, reporting the above listed remedial actions.

These remedial actions reflect, in part, normal air pollution control activities of the agencies funded from their regular budgets as well as actions stimulated and accelerated by the promulgation of Executive Order 11282 and the need to prepare the five-year phased and orderly plan. Congressional action on FY 1969 budget requests had not been completed by April 1, 1968, and therefore, most of these projects represent relatively small expenditures of funds already available to solve relatively simple and inexpensive problems. Abatement actions at large installations or on very expensive projects generally must await funding. Installation of electrostatic precipitators at the large Tennessee Valley Authority Power Plants is an exception to this situation, because of alternate sources of funds.

These reports also reflect favorably on the efforts of agencies to comply with the strict sulfur-oxide regulations governing the New York and Chicago Standard Consolidated Areas and the Standard Metropolitan Statistical Area of Philadelphia.

Fuels for use in these areas by the civilian agencies are obtained principally by the General Services Administration. Inquiry to the General Services Administration elicited the information that all fuels used in the Chicago Standard Consolidated Area are in conformity with the requirements of the Executive Order.

Attempts to secure bids on fuels which would meet the Executive Order regulations for New York and Philadelphia failed for the most part. The limited response required a 64 percent premium over costs of existing fuel. Readvertising for a maximum of 1 percent sulfur content brought good response resulting in an 11 percent to 16 percent increase in costs over previous higher sulfur fuels. These responses were considered acceptable. This means that, for these areas, a number 4 fuel oil with 0.7 percent sulfur and a number 6 fuel oil with 1.0 percent sulfur maximum will be used for the 1968-1969 heating season.

This success in securing fuel oil with 1 percent or slightly less than 1 percent sulfur is encouraging and forecasts a considerable improvement in future sulfur-oxide emissions; additional improvements will accrue as a result of conversions to natural gas.

V. WASHINGTON, D. C. METROPOLITAN AREA

Considerable progress in controlling air pollution has been made by Federal facilities in the area following the National Capital Metropolitan Area Interstate Air Pollution Abatement Conference held by the Department of Health, Education, and Welfare in December 1967. Open burning has been discontinued at Kenilworth Dump in the District of Columbia and a sanitary landfill has been started. The Department of Health, Education, and Welfare, the Department of the Interior and the government of Washington, D. C. were instrumental in effecting this long-sought change.

The Department of Commerce has completed conversion of the heating plant at the National Bureau of Standards in Gaithersburg, Maryland, to burn natural gas, with number 2 fuel oil as standby; and the Treasury Department has modified the classified-waste incinerator at the Bureau of Engraving and Printing in Washington, D. C. Pending funds for replacement, an incinerator at the Agricultural Research Station in Beltsville, Maryland, has been repaired by the Department of Agriculture.

Conversion of heating plants to burn natural gas is underway at the Goddard Space Flight Center of the National Aeronautics and Space Administration in Greenbelt, Maryland, and at the National Zoological Park of the Smithsonian Institution in Washington, D. C.

With respect to the Department of Health, Education, and Welfare, the Food and Drug Administration in Beltsville, Maryland has reduced particulate emissions from a faulty incinerator by making operational changes; several incinerators have been eliminated on the Howard University campus in Washington, D. C. by transporting refuse to the District of Columbia incinerators; St. Elizabeth's Hospital in the District has contracted for replacement of a faulty pathological incinerator, has installed smoke meters on coal and oil-burning boilers and has secured funds for equipping the main refuse incinerator with air pollution control equipment; the National Institutes of Health in Bethesda, Maryland is now using a number 6 fuel oil with a maximum sulfur content of 0.5 percent, is redesigning classified-waste incinerators for installation of both after-burners and water scrubbers, and is engaged in a joint effort with the Department of Army and the Department of Navy to design and construct a large general waste incinerator to serve the National Institutes of Health, the Naval Medical Center and Walter Reed Hospital and Annex. Construction will be at the Annex site in Maryland. The Department of Army has issued a permit for land use for this project and design has been started.

The General Services Administration, as anticipated, is playing an important role in the Washington, D. C. Metropolitan Area, as elsewhere, with respect to procurement of low-sulfur fuel. Since

November 1967, all fuel oil procured for the Department of Defense facilities in the Washington area by the General Services Administration has contained 2 percent sulfur. For the 1968-1969 heating season, fuels have been secured at 1.5 percent sulfur, which is in accord with the recommendations of the Washington abatement conference. Furthermore, it is expected that for the 1969-1970 heating season 1 percent sulfur fuels will be provided. Department of Defense facilities involved are the following:

Arlington Hall Station, Arlington, Virginia
Pentagon Building, Arlington, Virginia
Cameron Station, Alexandria, Virginia
Fort Belvoir, Springfield, Virginia
Harry Diamond Laboratories, Washington, D. C.
Fort Leslie J. McNair, Washington, D. C.
Walter Reed Army Medical Center, Washington, D. C.
N. G. Camp Sims, Washington, D. C.
Walter Reed Army Medical Center (Forest Glen Annex), Maryland
Army Map Service, Montgomery County, Maryland
Andrews Air Force Base, Maryland
Naval Research Laboratory, Washington, D. C.
Marine Barracks, Washington, D. C.
Naval Communications Station, Cheltenham, Maryland
Naval Medical Center, Bethesda, Maryland
Naval Ordnance Laboratory, White Oaks, Maryland

Additional activities of the General Services Administration in this area have resulted in the replacement of three boilers, previously burning number 6 fuel oil, with two gas-fired boilers at the old Bureau of Standards property on Connecticut Avenue in the District of Columbia. The General Services Administration also has reported that all of the major coal-burning steam plants operated by the General Services Administration now are using coal containing 1 percent sulfur or less.

Remaining problems of air pollution abatement in Federal facilities in and around Washington, D. C. generally are minor and work is proceeding on many of these at this time.

VI. MISCELLANEOUS ACTIVITIES

During calendar year 1968, emission inventories of all 77 Federal facilities in the Kansas City area were completed and entered in the record of the second session of the Kansas City, Kansas-Kansas City, Missouri Interstate Air Pollution Abatement Conference. A similar inventory was completed of the 185 Federal facilities in the Philadelphia, Pennsylvania area in conjunction with the Delaware Valley Regional Air Quality Program which is being conducted cooperatively by Federal, State, and local agencies.

In view of the mandate for Federal facilities to exhibit leadership in abating air pollution, inventories of emissions from Federal facilities have been completed in Washington, D. C., New York, Chicago, Philadelphia, Chattanooga, and Detroit and started in Denver, St. Louis, Boston, and San Francisco. Eventually, all 32 Regions will be completely inventoried. Information will be helpful to the facilities themselves and will be important in any overall area emission studies which must be carried out before control programs are developed by States and communities concerned within each Region.

Special studies also are underway concerning air pollution problems and control practices in Federal foundries, ammonia oxidation plants used to manufacture nitric acid, and sulfuric acid manufacturing plants. Information secured from these studies will be helpful in developing improved control techniques for these air pollutants.

The Department of Defense again has included proposals for control of emissions from the Volunteer Army Ammunition Plant in Hamilton County, Tennessee. Proposals for this Plant have been included in FY 1969 plans but were not funded by Congress. This Plant probably is the worst single Federal source of air pollution, principally oxides of nitrogen, in the United States. It has been the source of complaints, Congressional inquiries and general citizen dissatisfaction in its vicinity. Failure to fund the 1969 project was a distinct disappointment and it is hoped that corrective measures will be funded in FY 1970.

Technical assistance on specific problems associated with boiler operations was given to the Department of Defense, Veterans Administration, and the Department of Health, Education, and Welfare. Similar help concerning incinerators was given to the Smithsonian Institution and to the Departments of Defense, Interior, and Agriculture.

A conference was held with representatives of the Corps of Engineers (Civil Works) concerning the disposal of debris from New York Harbor. Representatives of the Corps were reminded that the pit incinerator being constructed at Caven Point, New Jersey, in its proposed form, may be inadequate to meet the standards concerning particulate emissions. If this should prove to be true following testing of this device, further design and engineering will be necessary to secure compliance with the regulations.

A carbon monoxide control study related to automotive traffic was started at selected border stations at the request of the Public Buildings Service of the General Services Administration.

The Washington, D. C. Air Pollution Division and the National Park Service of the Department of the Interior were advised concerning an incinerator designed for the destruction of brush and logs. These agencies are attempting to dispose of this waste in a manner which hopefully will replace the current open burning. Specialized activities have been continued to assure the control of exhaust products from missiles and rockets powered with highly toxic propellants. These activities involved close cooperation and interagency liaison with the Department of Defense, National Aeronautics and Space Administration, Atomic Energy Commission, Armed Services Explosives Safety Board, and the National Academy of Sciences-National Research Council. During the year, not a single rocket motor containing beryllium propellant was fired in the open air of the continental United States.

In the interest of providing further assistance during the year, the Federal Facilities Section distributed several hundred copies of the 892 page publication titled "Air Pollution Engineering Manual" to the Federal agencies. Also distributed for comment and technical criticism was the "Interim Guide to Good Practice for Selecting Incinerators for Federal Facilities."

The Section also participated in a training course at Durham, North Carolina for approximately 70 engineers of the Army Materiel Command and in a seminar at the Army Environmental Health Agency, Edgewood Arsenal, Edgewood, Maryland with representatives of the Army Surgeon General's office, the Bureau of the Budget and the Federal Water Pollution Control Administration, to review the operation of the five-year phased and orderly plan.

VII. CONCLUSION

The Federal departments and agencies again this year evidence excellent cooperation with the Department of Health, Education, and Welfare and the Bureau of the Budget for purposes of preventing and controlling air pollution. The reports of progress highlight both the efforts and the intentions of the agencies. With sufficient funding, there is no reason why air pollution control by Federal agencies should not be successful. Announcement of the establishment of the first 32 Air Quality Control Regions by the National Air Pollution Control Administration has given further impetus to this program and has defined more sharply than heretofore areas to which specific attention must be provided both by the Federal Government and by State and local organizations.

Sufficient funding will enable prompt abatement of air pollution from Federal establishments.

APPENDIX A

(FY 1970 Projects to be Recommended by the President*)

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Agriculture	Agricultural Research Center Beltsville, Maryland	Construct new incinerator for Animal Husbandry Meats Laboratory and a new pathological incinerator for Building 129A, Animal Parasite Station, Area 1. Convert Heating Plant 309A, Area 3 to gas with No. 2 fuel oil as standby.
Atomic Energy Commission	Feed Materials Production Center, Fernald, Ohio	Install sanitary landfill and two special purpose incinerators.
	Argonne National Laboratory Argonne, Illinois	Convert heating plant to natural gas.
Department of Commerce	U. S. Merchant Marine Academy Kings Point, New York	Conversion of heating plant to No. 2 fuel oil or to gas with oil standby depending on results of engineering feasibility study now underway.
General Services Administration	Post Office and Courthouse East St. Louis, Illinois	Convert boiler to oil or gas.
	AEC Building Germantown, Maryland	Install wet scrubber on incinerator.

*Tentative listing supplied by the Bureau of the Budget, December 27, 1968)

AGENCY	INSTALLATION	PROPOSED ACTION
General Services Administration (Continued)	Military Personnel Records Center Overland, Missouri	Convert boiler from coal to No. 2 fuel oil.
	Post Office (Back Bay Annex) Boston, Massachusetts	Convert to oil.
Department of Health, Education, and Welfare	Public Health Service Hospital Detroit, Michigan	Replace boilers and install two incinerators.
Smithsonian Institution	National Zoological Park Washington, D. C.	Improve control of incinerator by wet scrubber and convert coal steam plant to gas.
Tennessee Valley Authority	Shawnee Steam Plant McCracken County, Kentucky	Complete installation of electrostatic precipitators on all 10 units.
	Widows Creek Steam Plant Jackson County, Alabama	Upgrading electrostatic precipitators on Units 7 and 8 will be continued.
	Gallatin Steam Plant Sumner County, Tennessee	Complete installation of electrostatic precipitators.
Veterans Administration	V.A. Hospital Bronx, New York	Replace 3 boilers with 1 boiler and convert 2 boilers to gas and No. 2 fuel oil.

AGENCY	INSTALLATION	PROPOSED ACTION
Veterans Administration (Continued)	V.A. Hospital Butler, Pennsylvania	Replace 3 boilers with 3 boilers burning gas and No. 2 fuel oil.
	V.A. Hospital Pittsburgh, Pennsylvania (GM)	Convert 4 boilers to gas and No. 2 fuel oil.
	V.A. Hospital Pittsburgh, Pennsylvania (NP)	Convert 3 boilers to gas and No. 2 fuel oil.
	V.A. Center Dayton, Ohio	Convert 4 boilers to gas and No. 2 fuel oil.
	V.A. Hospital Cincinnati, Ohio (Fort Thomas)	Replace 4 boilers with 2 burning gas and No. 2 fuel oil.
	V.A. Hospital Brecksville, Ohio	Replace 1 boiler and convert 2 boilers to gas and No. 2 fuel oil.
Department of Defense Air Force	Davis-Monthan Air Force Base Tucson, Arizona	Install a 75 ton per day scrap metal smelter complete with shredding device, automatic loading and weighing equipment, multi-combustion chamber design, high-temperature refractory, an automatic metal reclaiming system, dross removal and air pollution abatement control equipment.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Air Force (Continued)	Bradley Air National Guard Windsor Locks, Connecticut	Install smoke density recorder meter on boiler.
	Eglin Air Force Base Ft. Walton Beach, Florida	Install incinerator in Marketing and Redistribution Area; modify five POL storage tanks to floating roof configuration; install wet scrubber for asphalt plant; install catalytic combustion chamber and ducts over gas vents of each of three Imhoff tanks.
	Scott Air Force Base Belleville, Illinois	Install submerged fill-pipe in 7 underground aviation gas tanks.
	Andrews Air Force Base Camp Springs, Maryland	Enlarge Building 3409 (Navy Plant) to contain oil-fired equipment and eliminate Building 3743. Convert from coal to low-sulfur fuel oil (No. 2) all boilers in Buildings 3032, 3212, 3755, and 4331. Install smoke density meters to all existing boilers over 10 million BTU input capacity.
	McGuire Air Force Base Burlington County, New Jersey	Convert boilers in Buildings 21-01, 34-02, to natural gas; Buildings 16-23, 18-07, 24-01, 33-22, 34-59, and 19-06 to No. 2 fuel oil. Same for Building 18-01.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Air Force (Continued)	McGuire Air Force Base ANG Areas Wrightstown, New Jersey	Convert 2 oil burners from No. 4 fuel oil to No. 2 fuel oil.
	Lockport Air Force Station Lockport, New York	Design mechanical filters for boiler house stack at main boiler plant.
	Wright-Patterson Air Force Base Greene County, Ohio	Design gas scrubber for incinerator in Building 202.
	Brooks Air Force Base San Antonio, Texas	Design refuse incinerator to eliminate sanitary landfill operation because of limited land.
	Carswell Air Force Base Fort Worth, Texas	Repair existing incinerator in Building 1730. Base refuse to be disposed of by contract in FY 1970.
	McChord Air Force Base Tacoma, Washington	Construct incinerator to eliminate burn and cover garbage refuse.
	General Mitchell ANG Base Milwaukee, Wisconsin	Install smoke density recording meter.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Army	Volunteer Army Ammunition Plant Hamilton County, Tennessee	For TNT production area, complete installation of instrumentation for TNT waste acid fume recovery system; install additional bubble-cap towers to increase absorption capacity of TNT waste acid recoveries; investigate more efficient air jet to decrease volume of fumes from bi-oil at Bi-House to permit introduction of fumes into fume recovery line; make absorbtion study to determine optimum TNT waste acid recovery conditions; install scrubbers to remove nitrogen oxides from recovery bubble-cap absorbtion column stack gas and from Wash House gases; improve performance of fume lines between Mono and Bi-Houses and acid recovery buildings. For East Acid Production Area, the use of natural gas is awaiting a gas contract; testing to be done to determine feasibility of a mist filter to replace the electrostatic precipitators and the Mahon fog filters; possible installation

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Army (Continued)	Volunteer Army Ammuntion Plant (Continued) Hamilton County, Tennessee	of a combustion unit for nitric acid concentration and scale tanks; for Ammonia Oxidation Plant, improve process control and consider use of catalytic combustion units to eliminate oxides of nitrogen. For the Red Water Incineration Plant, use of natural gas is awaiting contract; install an improved feed system and a wet scrubbing system. Problem of eliminating open burning area is under study. Recommendations also have been submitted for a completly modern TNT plant with allied acid facilities to reduce pollution costs.
	Joliet Army Ammunition Plant Joliet, Illinois	Replacement of open burning by a sanitary landfill; install mist eliminator equipment for sulfuric acid concentrators and convert to natural gas; design catalytic combustion units for ammonia oxidation plants; install mist eliminator equipment for oleum production units and for sellite producing

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Army (Continued)	Joliet Army Ammunition Plant (Continued) Joliet, Illinois	units; install fume scrubbing system for TNT Recovery Buildings and for Tetryl Recovery Building; convert to natural gas and install particulate collectors for Red Water Incinerators; use lower sulfur oil for central heating plants and install sanitary landfill for non-explosive material to eliminate open burning at the Load Assemble Pack Unit.
	Fort Benjamin Harrison Indianapolis, Indiana	Design conversion of central coal-fired heating plant to natural gas; design to connect that plant to heating plant No. 2 with steam line; design conversion to No. 2 fuel oil for 2 consolidated mess halls.
	U. S. Army Reserve Center Indianapolis, Indiana	Convert coal-fired heating system to natural gas.
	Picatinny Arsenal Dover, New Jersey	Conversion of coal-fired boilers to natural gas with low-sulfur fuel oil standby; use of low-sulfur fuel oil at oil-fired heating plants.
	Granite City Army Depot Granite City, Illinois	Construct incinerator to eliminate 2 open burning areas.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Army (Continued)	Fort Sam Houston San Antonio, Texas	Install system to reclaim used oil thereby eliminating open burning from salvage oil pit.
	Aberdeen Proving Ground Aberdeen, Maryland	Install submerged inlets on gasoline storage tanks to reduce loss of gasoline through evaporation.
	Edgewood Arsenal Edgewood, Maryland	Design of new incinerator for waste disposal.
	Fort George Meade Odenton, Maryland	Design conversion of coal-fired heating plants to either oil or gas-fired units depending upon economics study.
	Valley Forge General Hospital Phoenixville, Pennsylvania	Replace short stacks on 9 boilers with breeching to existing 100 foot brick stacks and install fly ash collection hoppers; install photoelectric smoke detectors on boilers over 10 MBTU per hour input. Design replacement incinerator for a larger facility with smoke and particulate abatement equipment.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Army (Continued)	Frankford Arsenal Philadelphia, Pennsylvania	Design for conversion from No. 6 oil to combination of No. 2 oil and gas.
	Fort Dix Burlington, New Jersey	Construct steam line to an oil-fired plant in reception center and then remove coal-fired boiler in Building 3684.
	Fort Hancock Highlands, New Jersey	Change fuel from coal to gas with oil standby at central heating plant.
	Arlington Hall Station Arlington, Virginia	Renovate and rebuild incinerators.
	Fort Belvoir Fairfax County, Virginia	Fuel conversion to natural gas with low-sulfur fuel oil as standby for 2 boilers using coal (10-100 MBTU/hr.).
	Fort McNair Washington, D. C.	Replace underground gasoline storage tank and include submerged type fill-pipe to prevent gasoline loss.
	Michigan Missile Plant Warren, Michigan	Conversion of 2 boilers to gas fuel from coal.
Department of Defense Navy	Naval Air Station Alameda, California	Provide pressure breather valves for aviation gas storage tanks 97A to 97E; set control at 2.5 psi. Phase out tanks 342A and 342B FY 1972 or sooner.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Navy (Continued)	Marine Corps Supply Center Barstow, California	Install on-station sanitary landfill to replace open-pit burning.
	Naval Weapons Station Concord, California	Provide multichamber incinerator with afterburner or install a wet pulping system.
	San Francisco Bay Naval Shipyard Hunters Point San Francisco, California	Provide 2 direct flame afterburners for bake ovens in Building 211 and Building 271. Design and engineering studies to replace a dry pulp paper disintegrator with a wet pulping system.
	San Francisco Bay Naval Shipyard Mare Island Valejo, California	Improve ventilation of Building 53. Increase frequency of cleanout of oil scrubber and replace filter pads in the scrubber more frequently. These changes are directed at odor control from rubber milling operations.
	Fleet Training Center Naval Station San Diego, California	Construct air pollution control system to eliminate smoke from this activity.
	Naval Fuel Depot San Pedro, California	Installation of a vapor collection and flare system to collect and burn vapors during filling operations for a truck loading facility and four fuel storage tanks.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Navy (Continued)	Naval Station Treasure Island San Francisco, California	Engineering study to provide baghouse filter on cyclone exhaust from a classified paper disintegrator at Building 445.
	Marine Corps Air Station Kaneohe Bay Honolulu, Hawaii	Install sanitary landfill to replace open burning dump.
	Fleet Training Group Pearl Harbor Honolulu, Hawaii	Design smoke abatement facility for fire fighting training school.
	Naval Ordnance Station Forest Park, Illinois	Design new incinerator with air pollution control equipment.
	Naval Training Center Great Lakes, Illinois	Install after-burner system to eliminate smoke from the fire fighting training school.
	Naval Air Station Olathe, Kansas	Design smoke control system for fire fighting training operation.
	Naval Shipyard Boston, Massachusetts	Design high efficiency collector to control particulates from power plant.
	Naval Communications Station Cheltenham, Maryland	Install wet scrubber to control emissions from refuse incinerator.
	Naval Ship Research and Development Center Carderock, Maryland	Install smoke detectors on heating plant in Building 6.
	Naval Ammunition Depot Earle, New Jersey	Convert from No. 4 residual fuel oil to No. 2 distillate oil; eliminate open burning and dispose of lumber by a chipper.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Navy (Continued)	Naval Air Station Brooklyn, New York	Convert from No. 6 and No. 4 residual fuel oil to No. 2 distillate in Building No. 6 and Building No. 4 respectively.
	Naval Hospital St. Albans, New York	Convert from No. 6 residual fuel oil to No. 2 distillate oil in Building 64.
	Naval Supply Center Craney Island Norfolk, Virginia	Installation of smoke detectors and alarms on boilers; provide waste oil destruction to replace waste oil pit; construct new incinerator or burn in city incinerator.
	Naval Damage Control Training Center Philadelphia, Pennsylvania	Construct smoke elimination system for this fire center.
Department of Defense Corps of Engineers (Civil Functions)	Potomac and Anacostia Rivers Washington, D. C.	Install incinerator to dispose of drift and debris collected from these Rivers. May be open-pit type or mounted on a barge. Decision rests upon prototype open-pit device operation at Caven Point, New Jersey.
	Baltimore Harbor Baltimore, Maryland (Drift removal)	Install overfire air pit incinerator at Ft. McHenry.

AGENCY	INSTALLATION	PROPOSED ACTION
Department of Defense Corps of Engineers (Continued) (Civil Functions)	Puget Sound and Tributary Waters Washington, D. C. (Harbor debris disposal)	Continue interim landfill operation and conduct engineering study to determine best solution.
	Dipper Dredge, KEWAUNEE Lake Michigan	Install smoke detector, alarm or recorder on vessel.

APPENDIX B

Summary of Remedial Actions by Federal Departments or Agencies--FY 1968

DEPARTMENT OR AGENCY		Progress Reports Number	Remedial Actions Number	Stopped open burning or poor incineration	New or upgraded incinerators	Replacement of heating plants	Existing heating plants improved	New or improved particulate collectors	Smoke or other monitor systems installed	Using lower sulfur content coal or fuel oil	Converted heating plant from coal or oil to gas	Converted to electricity	Reduced chemical or vapor emissions	Other*
	Grand Totals	387	442	126	9	14	7	8	16	103	37	1	31	90
DEFENSE	ARMY	88	115	25	3	1	1	3	4	56	3		7	12
	NAVY	67	94	7		2	1		8	22	3		15	36
	AIR FORCE	39	43	13	2	1	3	2	1	5	2		6	8
	SUPPLY AGENCY	1	1	1										
	C. ENGINEERS	2	5				1			1				3
ATOMIC ENERGY COMMISSION		15	20	3	1		1	1	3	1			2	8
COMMERCE		3	4							2	1			1
GENERAL SERVICES		13	14							2	8			4
HEALTH, EDUCATION, WELFARE		11	11	1	2					7	1			1
INTERIOR		11	12	2						4	2			4
JUSTICE		20	2							1				1
NAT'L AERONAUTICS & SPACE		3	3											3
POST OFFICE		69	69	68							1			
SMITHSONIAN INSTITUTION		1	2	1										1
TENNESSEE VALLEY AUTHORITY		6	7					2				1	1	3
TRANSPORTATION		4	4	2						2				
VETERANS ADMINISTRATION		34	36	3	1	10					17			5

* "Other Action" includes studies, designs, and project cost estimates completed or underway. It also includes contracts awarded or advertised for bid.

APPENDIX C

Annual Report of Progress by Installation During FY 1968

AGENCY	INSTALLATION	ACTIONS
Department of Defense Defense Supply Agency	Defense Supply Support Center Philadelphia, Pennsylvania	Conversion of steam boiler to gas-oil firing completed February, 1968.
Army	Fort McClellan Anniston, Alabama	Open burning discontinued during FY 1968.
	Redstone Arsenal Huntsville, Alabama	Installed vapor emission control devices in nine tanks during FY 1968.
	Fort Rucker Daleville, Alabama	Ten coal-fired boilers replaced or converted to oil or gas during FY 1968.
		Twenty-eight furnaces converted to oil or gas.
	Fort Richardson Anchorage, Alaska	Construction contract awarded January, 1968. Completion scheduled for October, 1968.
	Fort Wainwright Fairbanks, Alaska	Open burning discontinued and sanitary landfill established in FY 1968.
	Yuma Proving Grounds Yuma, Arizona	Open burning discontinued and sanitary landfill established.
		Vapor emission controls installed on all gasoline storage tanks during FY 1968.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Fort Chaffee Fort Smith, Arkansas	Open burning discontinued and sanitary landfill established during FY 1968.
	Pine Bluff Arsenal Pine Bluff, Arkansas	Open burning and white phosphorous slag eliminated (shipping slag to TVA).
		Renovating incinerator-contract awarded February, 1968. Operation scheduled for FY 1969.
		Design study for criteria and cost estimate completed December, 1967.
		Preliminary survey chlorine manufacture facility made in July, 1967.
	Hunter Liggett Military Reservation Jolon, California	Sanitary landfill for refuse disposal established during FY 1968.
	Fitzsimmons General Hospital Aurora, Colorado	Discontinued use of one incinerator during FY 1968.
	Rocky Mountain Arsenal Denver, Colorado	Three monitoring stations installed March, 1968.
		Submerged inlets on two storage tanks, FY 1968.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Fort Leslie J. McNair Washington, D. C.	Residual fuel oil with a maximum sulfur content of 2 percent has been used since July 1, 1967.
	Walter Reed Army Medical Center (Main) Washington, D.C.	Residual fuel oil with maximum sulfur content of 2 percent has been used since July 1, 1967.
	Atlanta Army Depot Forest Park, Georgia	Submerged inlets installed on all underground tanks during FY 1968.
	Fort Gordon Augusta, Georgia	Two hundred and fifty-five coal-fired furnaces removed from construction area.
		Four gasoline tanks removed during FY 1968.
	Fort McPherson Atlanta, Georgia	Open burning discontinued. Waste disposed off post.
	Chicago USAR Center #1 (Moskala) Chicago (East 71st Street) Illinois	Fuel oil containing maximum of 1 percent sulfur has been used since December 1, 1967.
	Chicago USAR Center #2 (Gibson) Chicago (West Cermak Road) Illinois	Fuel oil containing maximum of 1 percent sulfur has been used since December 1, 1967.
	Chicago USAR Center #3 (Lincolnwood) Chicago (North Kedzie Avenue) Illinois	Fuel oil containing maximum of 1 percent sulfur has been used since December 1, 1967.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Chicago USAR Center Chicago (South Cornell Street) Illinois	Fuel oil containing maximum of 1 percent sulfur has been used since December 1, 1967.
	Chicago USAR Center Chicago (South Exchange Avenue) Illinois	Fuel oil containing maximum of 1 percent sulfur has been used since December 1, 1967.
	Joliet Army Ammunition Plant Joilet, Illinois	Preliminary engineering studies made on control of emissions from manufacturing processes.
		Negotiating design contract for upgrading coal-fired heating plants.
		Soliciting lower sulfur coal and oil.
	Missile Site C-80 Arlington Heights, Illinois	Fuel oil containing maximum of 1 percent sulfur has been used since December 1, 1967.
	Rock Island Arsenal Rock Island, Illinois	Installed one-half of the abatement devices planned for Metal Plating Shop in FY 1968.
	Fort Sheridan Highland Park, Illinois	Fuel oil containing maximum of 1 percent sulfur has been used since December 1, 1967.
		Construction contract awarded January, 1968, to convert heating plant from coal to gas. Completion date November, 1968.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Waukegan USAR Center Waukegan, Illinois	Fuel oil containing maximum of 1 percent sulfur has been used since December 1, 1967.
	Camp Atterbury Edinburg, Indiana	Open burning discontinued.
	Sunflower Army Ammunition Plant Lawrence, Kansas	Open burning of uncontaminated waste discontinued and landfill established FY 1968. Awarded design contract April 30, 1968 to convert steam plant from coal to natural gas and number 2 fuel oil standby.
	Fort Knox Louisville (Hardin, Meade Bullitt Counties) Kentucky	Open burning discontinued in FY 1968.
	Army Map Service Brookmont, Maryland	Residual fuel oil containing maximum of 2 percent sulfur used since July 1, 1967.
	Fort George G. Meade Odenton, Maryland	Smoke detectors and recorders installed on 10 boilers during FY 1968.
	Walter Reed Army Medical Central Annex Forest Glen, Maryland	Residual fuel oil containing maximum of 2 percent sulfur has been used since July 1, 1967.
	Boston Army Base Boston, Massachusetts	Smoke detectors installed on 6 boilers in the Central Boiler Plant September, 1967.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Fort Devens Ayer, Massachusetts	Incinerators have been inactivated during FY 1968.
	Fort Leonard Wood Waynesville, Missouri	Contract awarded to convert 8 coal-fired boilers and 181 coal-fired heating systems to oil-fired before 1968-1969 heating season.
	Fort Missoula Missoula, Montana	Eight coal-fired boilers changed to gas in FY 1968.
	Bayonne Military Ocean Terminal Bayonne, New Jersey	Fuel oil procured for use after May 1, 1968 will meet New Jersey State limit for sulfur content.
	Burlington Army Ammunition Plant Burlington, New Jersey	Fuel oil procured after May 1, 1968 will meet New Jersey State sulfur limit.
	Camden USAR Center Camden, New Jersey	Fuel oil containing maximum sulfur content of 1 percent in use since November 1, 1967. Oil procured after May 1, 1968 will meet New Jersey State sulfur limit.
	Fort Dix Wrightstown, New Jersey	Fuel oil containing 1 percent sulfur in use since November 1, 1967. Procuring anthracite with 0.9 percent sulfur content for use in FY 1969. Bituminous coal for use in FY 1969 to contain one percent maximum sulfur.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Fort Dix (Continued) Wrightstown, New Jersey	Fuel oil procured after May 1, 1968 will meet New Jersey State sulfur limit.
	Fort Hancock Highlands, New Jersey	Fuel oil used since November 1, 1967 contains 1 percent maximum sulfur content. Procuring bituminous coal with maximum sulfur content of 1 percent for FY 1969. Fuel oil procured after May 1, 1968 will meet New Jersey State sulfur limit.
	Kearny USAR Center Kearny, New Jersey	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum. Fuel oil procured after May 1, 1968 will meet New Jersey State sulfur limit.
	Camp Kilmer Edison, New Jersey	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum. Fuel oil procured after May 1, 1968 will meet New Jersey State sulfur limit.
	Alexander Hamilton USAR Center Lodi, New Jersey	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum. Fuel oil procured after May 1, 1968 will meet New Jersey State sulfur limit.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Fort Monmouth Eastontown, New Jersey	All open burning discontinued as of May 22, 1967 and refuse buried in landfill. Fuel oil used since November 1, 1967 contains 1 percent sulfur and oil procured after May 1, 1968 will meet New Jersey State sulfur limits. Coal procured for use in FY 1969 will contain 1 percent sulfur in bituminous and .9 percent in anthracite.
	Fort Monmouth Subpost Charles Wood Area, New Jersey	Fuel oil used since November 1, 1967 contains 1 percent sulfur and oil procured after May 1, 1968 will meet New Jersey State sulfur limits. Procuring anthracite containing .9 percent sulfur for use in FY 1969.
	Sgt. J. J. Sadowski, USAR Center Newark, New Jersey	Fuel oil used since November 1, 1967 contains 1 percent sulfur and oil procured after May 1, 1968 will meet New Jersey State sulfur limits.
	Nixon USAR Center Nixon, New Jersey	Fuel oil procured after May 1, 1968 will meet New Jersey State sulfur limits.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Picatinny Arsenal Dover, New Jersey	Discontinued open burning and use of incinerator. Landfill established. Fuel oil used since November 1, 1967 contains 1 percent sulfur and oil procured for use after May 1, 1968 will meet New Jersey State sulfur limits. Bituminous coal for use in FY 1969 being procured with maximum sulfur content of one percent. Design contract being negotiated for fuel conversion to gas.
	Philadelphia Air Defense Site Pedricktown, New Jersey	Fuel oil used since November 1, 1967 contains 1 percent sulfur and oil procured after May 1, 1968 will meet New Jersey State sulfur limits.
	Trenton USAR Center Trenton, New Jersey	Fuel oil procured for use after May 1, 1968 will meet New Jersey State sulfur limits.
	Fort Wingate Army Depot Gallup, New Mexico	Open burning replaced by landfill in March, 1967. Construction contract awarded April 30, 1968 to convert coal-fired boilers to gas.
	Army Pictorial Center New York City (Long Island City), New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Brooklyn Military Ocean Terminal New York (Kings County) New York	Fuel oil used after May 31, 1969 will contain 1 percent sulfur maximum.
	Fort Hamilton Brooklyn, New York	Smoke recorders installed on three boilers.
		Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
		Design contract being negotiated for upgrading incinerators.
	Brig. General T. Roosevelt, Jr. USAR Center Hemstead, New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	Miller Army Airfield Staten Island, New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	Sgt. Joseph E. Muller USAR Center New York City (East 238th Street) New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	S/Sgt. V. Q. Kelly USAR Center New York City (West 42nd Street) New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	2nd Lt. Thomas J. McDonald USAR Center New York City (Goethals Avenue, Jamaica) New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Seneca Army Depot Romulus, New York	Changed from coal-firing to oil burners on 3 boilers (Bldg. 319) during FY 1968.
	Fort Tilden, USAR Center New York City, New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	Fort Totten New York City, New York	Inactive status since July 31, 1967.
	USA Dir/Gen. Support Maintenance Activity Bellmore, New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	Fort Wadsworth New York City, New York	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	Watervliet Arsenal Watervliet, New York	Open burning discontinued during FY 1968. Wastes removed by contact.
	Fort Bragg Fayetteville, North Carolina	Open burning discontinued during FY 1968.
	Umatilla Army Depot Hermiston, Oregon	Open burning discontinued and landfill established as of May 1, 1968. Incinerator plans cancelled.
	Frankford Arsenal Philadelphia, Pennsylvania	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Norristown USAR Center Norristown, Pennsylvania	Anthracite containing .9 percent sulfur being procured for use in FY 1969.
	Valley Forge General Hospital Phoenixville, Pennsylvania	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	Horsham USAR Center Willow Grove, Pennsylvania	Fuel oil used since November 1, 1967 contains 1 percent sulfur maximum.
	Camp Bullis San Antonio, Texas	Open burning discontinued on July 1, 1967 and sanitary landfill established.
	Fort Hood Bell and Coryell Counties Texas	Open burning discontinued on July 1, 1967 and sanitary landfill established.
	Fort Sam Houston San Antonio, Texas	Open burning discontinued on July 1, 1967 and sanitary landfill established.
	Red River Army Depot Texarkana (Bowie County) Texas	Rubber previously burned is now stockpiled for future sale. Submerged inlets installed on 2 tanks during FY 1968.
	Camp Stanley San Antonio, Texas	Open burning discontinued on July 1, 1967 and sanitary landfill established.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Fort Walters Mineral Wells, Texas	One paper pulper installed March, 1968.
	Arlington Hall Station Arlington, Virginia	Residual fuel oil used since July 1, 1967 contains 2 percent sulfur maximum.
	Fort Belvoir Mt. Vernon, Virginia	Residual fuel oil used since July 1, 1967 contains 2 percent sulfur maximum.
	Cameron Station Alexandria, Virginia	Residual fuel oil used since July 1, 1967 contains 2 percent sulfur maximum.
	Fort Lee Fort Lee, Virginia	Two fuel conversions (coal to oil) were accomplished. Design completed for proposed conversion to gas with oil standby.
	Fort Myer Arlington, Virginia	Residual fuel oil used since July 1, 1967 contains 2 percent sulfur maximum.
	Vint Hill Farms Station Warrenton, Virginia	Replaced the 3 classified waste incinerators with 1 Smokatrol unit and 6 gas afterburners.
	Fort Lewis Tacoma, Washington	Two hundred and fifty worn out coal-fired furnaces replaced with oil-fired units in FY 1968.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Army (Continued)	Yakima Firing Center Yakima, Washington	Open burning discontinued and sanitary landfill established in FY 1968.
	Holston Army Ammunition Plant Sullivan and Hawkins Counties Tennessee	Engineering study, 90 percent complete, for control of particulates from 13 boilers in coal-fired heating plants.
	Volunteer Army Ammunition Plant Chattanooga, Tennessee	Pending modernization of this old plant, a variety of emission reduction devices are being installed, requested or studied.
Department of Defense Corps of Engineers	New York Harbor Drift Removal Project New York District Office New York, New York	Design complete contract let and construction complete for developing the area; 3 contracts let for long-lead construction (fans, motors, hoists, transformers); contract for general construction of incinerator proper now out for bids.
	Derrick Boat TONAWANDA Cleveland, Ohio (home port)	New burners installed permitting use of number 2 distillate fuel in lieu of number 5 previously used.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy	Naval Air Station, Alameda Alameda, California	Submerged inlets for motor gasoline storage tanks. June 30, 1968 expected completion date.
	Naval Weapons Station, Concord Concord, California	Submerged inlets for motor gasoline storage tank. June 30, 1968 expected completion date.
	Naval Air Station, Lemoore Lemoore, California	Open burning discontinued and on station sanitary landfill established May, 1967.
		Submerged inlets for motor gasoline tanks completed January, 1968.
	Naval Station, Long Beach Long Beach, California	Paper pulper installed November, 1967.
	Naval Air Station, Moffett Field Sunnyvale, California	Incineration of garbage discontinued. Hauled away by contract.
		Submerged inlets on motor gasoline storage tanks by June, 1968.
	Naval Postgraduate School, Monterey Monterey, California	Open burning discontinued. Now using off-station landfill.
		Submerged inlets on motor gasoline storage tanks in June, 1968.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Naval Hospital, Oakland Oakland, California	Submerged inlets on motor gasoline storage tanks to be completed by June 30, 1968.
	Naval Supply Center, Oakland Oakland, California	Firebrick and grate completed March, 1968.
		Submerged inlets on motor gasoline storage tanks to be completed by June 30, 1968.
	Naval Facility, Point Sur Big Sur, California	Submerged inlets on motor gasoline storage tanks to be completed by June 30, 1968.
	Fleet Training Center Naval Station San Diego, California	Contract for preparation of thirty percent final plans and specifications will be let before June 30, 1968. Architect-Engineer selected.
	San Francisco Bay Naval Shipyard-Hunter Point Site San Francisco, California	Boiler plants in Bldgs. 521 and 203 converted to interruptible natural gas in May and October, 1967.
		Submerged inlets on motor gasoline storage tanks to be completed by June 30, 1968.
	San Francisco Bay Naval Shipyard, Mare Island Site Vallejo, California	Power Plant, Bldg. 121 converted to natural gas, June 25, 1967.
		Submerged inlets on motor gasoline tanks to be completed by June 30, 1968.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Naval Communication Station Stockton, California	Submerged inlets on motor gasoline storage tanks to be completed June 30, 1968.
	Naval Station, Treasure Island San Francisco, California	Smoke elimination facility contract awarded January 19, 1968.
		Boiler contract awarded in April, 1968.
		Submerged inlets on motor gasoline tanks to be completed by June 30, 1968.
	Naval Research Laboratory Washington, D. C.	Smoke detectors ordered for installation in summer of 1968.
	Naval Air Station, Key West Key West, Florida	In-house study of refuse disposal practice completed.
	Naval Station, Key West Key West, Florida	In-house study of refuse disposal in Key West area completed. (Central incinerator for all area Naval activities recommended.)
	Marine Corps Supply Center, Albany Albany, Georgia	Engineering study complete. (Recommends sanitary landfill to replace 2 open burning dumps.)
	Naval Air Station, Barber's Point Barber's Point, Honolulu, Hawaii	Final plans and specifications being prepared for sanitary landfill.
	Naval Ordnance Station Forest Park, Illinois	Fuel procured since November 1, 1967 has contained a maximum of 1 percent sulfur.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Naval Air Station Glenview, Illinois	Fuel procured since November 1, 1967 has contained a maximum of 1 percent sulfur.
	Navy Public Works Center, Great Lakes Great Lakes, Illinois	Contract awarded for firm gas for the Main Power Plant effective November 1, 1968 for 95 percent of annual fuel.
		Contract awarded for design of control devices for Main Power Plant.
		Fuel used since November 1, 1967 has had a limit of one percent sulfur.
	Naval Training Center, Great Lakes Great Lakes, Illinois	Project cost estimate completed for Fire Fighting School smoke elimination facility.
	Public Works Center, Guam Orote Point, Guam	Plans completed for a sanitary landfill.
	U. S. Naval Academy Annapolis, Maryland	New heating plant under construction. Estimated completion date, November, 1968.
	Naval Research Laboratory Chesapeake Beach, Maryland	Smoke detectors ordered.
	Naval Ordnance Laboratory Silver Springs, Maryland	Design project underway (to control incinerator smoke.)
	Naval Shipyard, Boston Boston, Massachusetts	Project cost estimate completed August 15, 1967 for boiler smoke control and refuse disposal.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Naval Auxiliary Air Station Fallon, Nevada	Open burning discontinued; contract refuse hauling to on-station landfill operated by Seabees.
		Submerged inlets on motor gasoline storage tanks to be completed by June 30, 1968.
	Naval Ammunition Depot, Hawthorne Hawthorne, Nevada	Submerged inlets on motor gasoline storage tanks to be completed June 30, 1968.
	Goldsborough Housing (part of Supply Center) Bayonne, New York	Design completed FY 1968. Disestablishment anticipated June 30, 1968. Installation will be under Army.
	Reserve Training Center Clifton, New Jersey	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Ammunition Depot Earle, New Jersey	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Reserve Training Center Elizabeth, New Jersey	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Reserve Training Center Jersey City, New Jersey	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	IND Reserve Shipyard Newark, New Jersey	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Reserve Training Center Freeport, New Jersey	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Headquarters, First Marine Corps District Garden City, New York	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Mitchel Manor, Federal Housing Annex of Naval Station, Brooklyn Garden City, New York	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Reserve Training Center Huntington, New York	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Naval and Marine Corps Reserve Training Center, Fort Schuyler New York, Bronx, New York	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Shipyard (Naval Station, Brooklyn) Brooklyn, Kings County, New York	Design authorized for special Project A1-68, (Incinerator scrubbers).
	Marine Corps Reserve Training Center New York City, New York	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Naval Air Station, New York Brooklyn, New York	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum. Plans and specifications completed for boiler replacement Bldg. 4B.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Naval Air Station, New York Brooklyn, New York (Continued)	Project cost estimate completed for fuel conversion of 3 boilers in FY 1968. MCON project will include branch gas piping to Tenant Activity.
	Hospital, St. Albans St. Albans, Queen County New York	Fuel used since November 1, 1967 has contained 1 percent sulfur maximum. Special project with certificate of urgency approved by EASTDIV for scrubber and modifications in FY 1968. Project cost estimate completed for boiler conversion in FY 1968.
	Reserve Training Facility Youngstown, New York	Special project completed in FY 1968, EASTDIV approval anticipated in May, 1968.
	Naval Air Development Center Johnsville, Pennsylvania	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum. Negotiations underway for selecting A&E firm to prepare project cost estimate (smoke control).

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Naval Supply Depot Mechanicsburg, Pennsylvania	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum. Fuel selection survey completed and awaiting preparation of project for funding.
	U.S. Marine Corps Supply Activity Philadelphia, Pennsylvania	Fuel selection survey submitted to Marine Corps Supply Activity which has obtained 1 percent sulfur fuel oil since November 1, 1967.
	Naval Air Engineering Center Philadelphia, Pennsylvania	Fuel selection survey completed and awaiting funding. Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum.
	Naval Damage Control Center Philadelphia, Pennsylvania	Engineering investigation underway to determine most feasible method of eliminating fire fighting school.
	U.S. Naval Hospital Philadelphia, Pennsylvania	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum. Negotiation underway for selection of A&E firm to prepare project cost estimate.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Naval Shipyard Philadelphia, Pennsylvania	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum. Negotiations underway for selection of A&E firm to prepare project cost estimate for control of flyash and smoke.
	Naval Supply Depot Philadelphia, Pennsylvania	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum. Authorized to start plans and specifications for heating plant fuel conversion.
	Naval Air Station, Willow Grove Willow Grove, Pennsylvania	Fuel procured since November 1, 1967 has contained 1 percent sulfur maximum. Project for new boilers using low sulfur fuel approved.
	U.S. Naval Station Roosevelt Roads Ceiba, Humaco, Puerto Rico	Construction underway to install emission control valves and filters in exhaust fans, June, 1968 expected completion date.
	U.S. Marine Corps Camp Garcia Detachment Isabel II-Vieques, Puerto Rico	Sanitary landfill implemented.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Fleet Training Center, Newport Newport, Rhode Island	Project cost estimate completed August 4, 1967 (smoke control at Fire Fighting School).
	Public Works Center, Newport Newport, Rhode Island	Project cost estimate for incinerator completed August 15, 1967.
		Project cost estimate for flyash collectors completed June 2, 1967.
	Naval Shipyard, Charleston Charleston, South Carolina	Open burning discontinued and refuse disposed in sanitary landfill.
		A&E working on program cost estimate for dust collector.
	Naval Supply Center Craney Island Norfolk, Virginia	Installation of smoke recorders and alarms on heating plant to be completed by June, 1968.
		A&E study underway regarding waste oil disposal problem.
		Exploring refuse disposal by contract.
	Naval Public Works Center Norfolk, Virginia	Preliminary design complete for particulate control devices for waste heat plant.
		Smoke detectors being designed for Bldgs. P-1 and SU-1.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Navy (Continued)	Naval Supply Center Norfolk, Virginia	Completed installation of vacuum pressure relief valve on fuel tank September, 1967.
	Naval Air Station, Oceana Virginia Beach, Virginia	Smoke detectors for housing area heating plant to be installed before June 30, 1968.
	Naval Ammunition Depot St. Juliens Creek Portsmouth, Virginia	Smoke detectors, recorders and alarms have been installed.
	Naval Hospital Portsmouth, Virginia	Smoke detectors and alarms installed in April 1968.
	Norfolk Naval Shipyard Portsmouth, Virginia	Smoke detectors installed at Stanley Courts and Bldg. 174 heating plant.
Department of Defense Air Force	Perrin Air Force Base Sherman, Texas	Open burning eliminated with landfill. When available land is exhausted, then refuse hauling contract will be proposed.
	Lackland Air Force Base San Antonio, Texas	Have requested shredder pulper to replace classified paper incinerator.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Air Force (Continued)	Elmendorf Air Force Base Anchorage, Alaska	Contracted January, 1968 to convert from use of coal to natural gas. Expect completion by October, 1968.
	Williams Air Force Base Chandler, Arizona	Improvements in auto maintenance shop scheduled for FY 1969.
		Submerged inlets on three 50,000 gallon tanks.
	McClellan Air Force Base Sacramento, California	Waste lumber disposal contract expected to be completed by June, 1968.
	Vandenberg Air Force Base Santa Barbara County California	Vapor recovery valves on 4 underground fuel storage tanks.
	Lowry Air Force Base Denver, Colorado	Dustless ash handling equipment installed at heating plant during 3rd quarter FY 1968.
		Refuse disposal accomplished by sanitary landfill operation.
	Robins Air Force Base Warner Robins, Georgia	Bldg. 230 connected to central heating plant, thereby eliminating one furnace problem.
		Open burning of scrap lumber temporarily terminated by salvage and landfill operation. Available land is limited so incinerator planned for FY 1972.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Air Force (Continued)	Belleville Air Force Station Belleville, Illinois	Remedial action not required. Phase out scheduled for July, 1968.
	Chanute Air Force Base Rantoul, Illinois	Open burning discontinued and sanitary landfill established July, 1967.
	Hanna City Air Force Station Hanna City, Illinois	Remedial action not needed, phase out scheduled for July, 1968.
	Sioux City Air Base Sioux City, Iowa	Remedial action not required. Facilities being turned over to ANG and Sioux City effective September, 1968.
	Snow Mt. Air Force Station Fort Knox, Kentucky	Cyclone separator no longer needed. Phase out scheduled for July, 1968.
	Barksdale Air Force Base Bossier City, Louisiana	Classified waste disintegrator installed.
		Construction scheduled to start before December 31, 1968 on non-pollutant waste disposal system for a new composite medical facility. Design underway.
	Andrews Air Force Base Camp Spring, Maryland	Contract for off base refuse disposal eliminates need for incinerator.
		Design underway to convert boilers in Bldg. 1515 to oil.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Air Force (Continued)	L. G. Hanscom Field, P.I.N. 1949 Bedford, Massachusetts	Smoke detection and recorder system accomplished in December, 1967.
	Westover Air Force Base Chicopee, Massachusetts	Open burning eliminated with sanitary landfill. Close monitoring of heat plant operation.
	Calumet Air Force Base Calumet, Michigan	A&E design underway for plant expansion and fuel conversion.
	Port Austin Air Force Station 80 miles S.E. of Saginaw Michigan	Fuel conversion to natural gas included in project to enlarge plant. Expected completion date September, 1968.
	Selfridge Air Force Base Mt. Clemens, Michigan	Design in progress for fuel conversion to natural gas to be effected in early 1969.
	Keesler Air Force Base Biloxi, Mississippi	Installation of submerged inlet lines in 500 gallon gasoline storage tanks. Completed November, 1967.
	Aeronautical Chart and Information Center St. Louis, Missouri	Design completed and construction contract awarded in April, 1968 for combination shredder-incinerator. Facility expected to be in operation by September, 1968.
	Kirksville Air Force Station Kirksville, Missouri	Phase out scheduled September, 1968.

	INSTALLATION	ACTIONS
Department of Defense Air Force (Continued)	Omaha Air Force Station Omaha, Nebraska	Phase out scheduled for September 1968.
	McGuire Air Force Base Burlington County New Jersey	Low sulfur No. 4 fuel oil purchased for Bldg. 33-42.
		New boilers fired with No. 2 fuel oil installed for Bldgs. 27-43, 27-35, 28-19 and 28-34.
	National Guard Air Base Floyd Bennett Field New York	ANG procuring low sulfur fuel oil to comply with emissions standards.
	Plattsburgh Air Force Base Plattsburgh, New York	Open burning discontinued. Refuse now deposited in sanitary landfill.
	Fortuna Air Force Station Fortuna, North Dakota	Design for new boilers completed; advertised for bid.
	Grand Forks Air Force Base Emerado, North Dakota	Fuel conversion from coal to oil scheduled for July 1, 1968.
	Minot Air Force Station Minot, North Dakota	Design completed and project authorized for bid advertisement. (Conversion of heating plant to gas).
	Lockbourne Air Force Base ANG Facility Columbus, Ohio	Purchasing low sulfur oil to comply with emission standards.

AGENCY	INSTALLATION	ACTIONS
Department of Defense Air Force (Continued)	Wright-Patterson Air Force Base Green County, Ohio	New incinerator installed in Bldg. 305, Area B. Replaced all cones on mechanical collector for Number 2 boiler CHP 1240 (HTW). Contaminated POL to be sold rather than burned on base.
	Altus Air Force Base Altus, Oklahoma	Refuse disposed off base in sanitary landfill operation.
	Kingsley Field Klamath Falls, Oregon	Submerged inlets on fuel tanks installed.
	Greater Pittsburgh Airport Pittsburgh, Pennsylvania	Submerged inlets on fuel tanks.
	Willow Grove Air Reserve Facility Willow Grove, Pennsylvania	Number 6 fuel oil containing .8 percent sulfur now being procured. Seeking oil containing .6 percent sulfur.
	Carswell Air Force Base Fort Worth, Texas	Open burning of refuse eliminated using sanitary landfill. Commissary incinerator being used by Base Communications.
	Kelly Air Force Base San Antonio, Texas	Reclamation smelter has ceased operation.
	Hill Air Force Base Ogden, Utah	Upgraded control equipment on classified document incinerator.

AGENCY	INSTALLATION	ACTIONS
Atomic Energy Commission	National Reactor Testing Station Bingham County, Idaho	One photoelectric unit with alarm system installed on steam plant at EBR II site.
	Argonne National Laboratory Du Page County, Illinois	Requested funds to convert plant to natural gas. Funds denied by Joint Committee on Atomic Energy.
	Burlington Plant De Moines, Iowa	Contract for engineering and design let on May 1, 1968 to convert steam plant from coal to natural gas and standby fuel oil. To be completed by October, 1969.
	Paducah Gaseous Diffusion Plant Paducah, Kentucky	Work started on rebuilding electrostatic precipitators on Steam Plant C-600.
	Bendix Plant Kansas City, Missouri	Equipment ordered to install gas afterburner and flue gas washer with stack damper in classified waste destructor in April, 1968. Completion scheduled August, 1968.
	Brookhaven National Laboratory Suffolk County, New York	Requested funds to convert steam plant to natural gas. Request denied by Joint Committee on Atomic Energy.

AGENCY	INSTALLATION	ACTIONS
Atomic Energy Commission (Continued)	Knolls Atomic Power Laboratory Schenectady County, New York	Changed fuel oil contract to less than 2 percent sulfur oil. Installed submerged filling inlet on 10,000 gallon storage tank. Currently establishing off site disposal of wastes to replace open burning.
	Oak Ridge Operations Feed Materials Production Center Fernald, Ohio	Smoke density recorders installed in 3 of 4 stacks. Studies of electrostatic precipitator operation underway to determine compliance with Executive Order 11282.
	Oak Ridge Operations Office Portsmouth Area Gaseous Diffusion Plant Portsmouth, Ohio	Stack sampling and other studies involving fuels still underway to evaluate economics of various remedial measures including electrostatic precipitation, smoke density recorders and flyash equipment.
	Savannah River Operations Office Savannah River Plant Aiken and Barnwell Counties South Carolina	Sanitary landfill being developed to eliminate open burning. Study regarding need for electrostatic precipitators in progress.
	Oak Ridge National Laboratory Oak Ridge, Tennessee	Vapor recovery and control system installed to control gasoline vapor loss.

AGENCY	INSTALLATION	ACTIONS
Atomic Energy Commission (Continued)	Oak Ridge Operations Oak Ridge Gaseous Diffusion Plant Oak Ridge, Tennessee	Funds budgeted for installation of smoke density recorders. Steam plant being studied regarding need for electrostatic precipitators and smoke density recorders.
	Oak Ridge Operations Oak Ridge Steam Plant Building 1916-T-2A Oak Ridge, Tennessee	Study underway to determine feasibility of installing gas fired boilers to eliminate smoke problem in residential area.
	Pantex Plant Amarillo, Texas	Sanitary landfill operation installed to eliminate open burning of 3.6 tons of refuse per day.
	Richland Operations Office Hanford Reservation Adams, Benton, Grant and Franklin Counties Washington	Seventeen smoke density monitors have been procured for use at this plant.

AGENCY	INSTALLATION	ACTIONS
General Services Administration	Federal Center Bldg. 47 Denver, Colorado	Fuel conversion construction contract awarded in April, 1968. Completion scheduled for November 15, 1968. Converting from coal to gas and Number 2 fuel oil.
	Englewood Postal Station Chicago, Illinois	Fuel conversion project out on bid. Coal to gas heating plant.
	Post Office and Courthouse Albany, New York	Funds requested for conversion to gas and Number 2 oil. Design completed.
	Bronx Central Station Post Office Bronx, New York	Project for conversion to Number 2 oil underway.
	Federal Office Building 29th Street and 3rd Avenue Brooklyn, New York	Conversion of boilers to gas and Number 2 fuel oil underway. Completion date, October 1, 1968.
	Federal Office Building 35 Ryerson Street Brooklyn, New York	Conversion of boilers to gas and Number 2 fuel oil underway. Completion date, October 1, 1968.
	Post Office Flushing, New York	Conversion of boilers to gas and Number 2 fuel oil underway. Completion date, October 1, 1968.
	Post Office Jamaica, New York	Conversion of boilers to gas and Number 2 fuel oil underway. Completion date, October 1, 1968.

AGENCY	INSTALLATION	ACTIONS
General Services Administration (Continued)	Madison Square Post Office New York, New York	Conversion of boilers to gas and Number 2 fuel oil underway. Completion date, October 1, 1968.
	Federal Office Building 641 Washington Street New York, New York	Conversion of boilers to gas and Number 2 fuel oil underway. Completion date, October 1, 1968.
	Post Office Rochester, New York	Conversion of boilers to gas and Number 2 fuel oil initiated.
	North Philadelphia Postal Station Philadelphia, Pennsylvania	Conversion of boiler from Number 4 to Number 2 oil completed.
	5000 Wissahickon Avenue Philadelphia, Pennsylvania	Conversion of boiler to gas and Number 2 fuel oil underway.
Department of Commerce	National Bureau of Standards Gaithersburg, Maryland	Contract has been let for conversion of heating plant to gas and standby fuel oil.
	Hoboken Terminal Hoboken, New Jersey	Property is under lease to Port of New York Authority. Authority has budgeted to convert to number 2 fuel oil in summer of 1968.
	U. S. Merchant Marine Academy Kings Point, Long Island, New York	Lower sulfur fuel oil now being used. A contract has been let to study the feasibility of using a combination gas-oil fired high-pressure boiler or converting to number 2 fuel oil.

AGENCY	INSTALLATION	ACTIONS
Department of Health Education and Welfare Public Health Service	Indian Hospital Phoenix, Arizona	Multiple chamber incinerator has been installed replacing single chamber unit.
	Outpatient Clinic Chicago, Illinois	Converted to low sulfur Number 6 oil.
	PHS Hospital Lexington, Kentucky	Open burning discontinued and sanitary landfill operating.
	Northeastern Radiological Health Laboratory Winchester, Massachusetts	Bids on market to obtain lower sulfur fuel oil.
	PHS Hospital Boston, Massachusetts	Bids on market to obtain lower sulfur fuel oil.
	PHS Hospital Staten Island, New York	Converted to Number 2 fuel oil. Design for eventual conversion to gas is 80 percent complete.
	Quarantine Station Staten Island, New York	Converted to Number 2 fuel oil.
	Outpatient Clinic Philadelphia, Pennsylvania	Converting to lower sulfur fuel oil.
	Northeast Marine Health Sciences Laboratory Narragansett, Rhode Island	Invitation to bid is on the market for lower sulfur fuel oil.
	PHS Hospital Norfolk, Virginia	Converted to Number 2 fuel oil.

AGENCY	INSTALLATION	ACTIONS
Department of Health, Education and Welfare Public Health Service (Continued)	St. Elizabeth's Hospital Washington, D. C.	Contracts awarded for smoke meters on boilers, installation of afterburner, barometric damper, overfire ventilation and burners in main incinerator.
Deparment of Transportation	Gloucester Coast Guard Base Gloucester City, New Jersey	Heating system converted from number 5 residual fuel oil to number 2 distillate oil.
	Coast Guard Training Center Cape May, New Jersey	Open burning of refuse has been discontinued. Refuse now compacted, collected, and disposed of by refuse service.
	New York Coast Guard Base Governors Island, New York	Partial conversion from residual fuel oil to number 2 distillate fuel oil. Will be completed when funds are available.
	Elizabeth City Coast Guard Air Base, Elizabeth City, North Carolina	Open burning of waste discontinued. Use of compactors and public disposal facilities accomplished.

AGENCY	INSTALLATION	ACTIONS
Department of Interior Bureau of Indian Affairs	Mt. Edgecumbe Boarding School Sitka, Alaska	Incinerator out on bid to eliminate open burning. Feasibility study in progress to determine modifications of heating plant.
	Chinle Agency Headquarters Chinle, Arizona	Stack sampling to be done to check emissions from Number 5 fuel oil.
	Hopi Indian Agency Headquarters Keams Canyon, Arizona	Preliminary investigation for heating plant modification to include air pollution abatement equipment has been made. An incinerator is being considered.
	Standing Rock Boarding School Fort Yates, North Dakota	Heating plant is being converted to Number 2 fuel oil.
	Seneca Indian School Wyandotte, Oklahoma	Boilers have been replaced with liquified petroleum gas fired units for each building. Coal fired boilers are abandoned.
	Oglala Community School Pine Ridge, South Dakota	Now converting centralized heating plant to Number 2 fuel oil.
	Kyle Day School Pine Ridge, South Dakota	Will be converted to Number 2 fuel oil for the heating plant.
	Pierre School Pierre, South Dakota	Now converting to Number 2 fuel oil for the heating plant.

AGENCY	INSTALLATION	ACTIONS
Department of Interior Bureau of Indian Affairs (Continued)	Intermountain School Brigham City, Utah	Scheduled to convert from coal to natural gas in FY 1969.
	National Park Service Grand Canyon National Park Grand Canyon, Arizona	Incinerators programmed for 1971 and 1974 FY for Desert View, North Rim and South Rim.
Bureau of Sport Fisheries and Wildlife	Crab Orchard NWR Carterville, Illinois	Parties operating 9 of 13 locations under lease with Bureau of Sport Fisheries and Wildlife have been notified to comply with Executive Order 11282. Four other installations are to use Number 2 fuel oil or gas. Open burning has been eliminated and a sanitary landfill installed.
Smithsonian Institution	National Zoological Park Washington, D. C.	Planning funds made available to GSA for heating study preliminary to phasing-out coal plant and conversion to gas. Improvements made in stack gas washer on incinerator. Plans for all-weather operation of this scrubber being drawn.

AGENCY	INSTALLATION	ACTIONS
Department of Justice Bureau of Prisons	Federal Correctional Institution Lompoc, California	Engineering study planned for waste disposal practices.
	Southwest Regional Office San Pedro (Terminal Island) California	Converted from high sulfur fuel oil to Number 2 fuel oil.
	Federal Correctional Institution Terminal Island, California	Engineering study planned.
	Federal Youth Center Englewood, Colorado	Engineering study planned for waste disposal practices.
	Federal Correctional Institution Danbury, Connecticut	Engineering study to be conducted concerning refuse disposal practices.
	Federal Correctional Institution Tallahassee, Florida	Engineering study planned concerning refuse disposal practices.
	U.S. Penitentiary Marion, Illinois	Engineering study planned concerning refuse disposal practices.
	U.S. Penitentiary Terre Haute, Indiana	Engineering study planned concerning refuse disposal practices.
	U.S. Penitentiary Leavenworth, Kansas	Engineering study underway. Funds for 2 incinerators to be requested in FY 1970 budget.
	Federal Youth Center Ashland, Kentucky	Engineering study planned concerning waste disposal practices.

AGENCY	INSTALLATION	ACTIONS
Department of Justice Bureau of Prisons (Continued)	Federal Correctional Institution Sandstone, Minnesota	Engineering study planned concerning waste disposal practices.
	Medical Center for Federal Prisoners Springfield, Missouri	Engineering study planned concerning waste disposal practices.
	U. S. Penitentiary Lewisburg, Pennsylvania	Engineering study planned concerning waste disposal practices.
	Federal Correctional Institution La Tuna, Texas	Engineering survey planned concerning refuse disposal practices.
	Federal Correctional Institution Seagoville, Texas	Engineering survey planned concerning refuse disposal practices.
	Federal Correctional Institution Texarkana, Texas	Engineering survey planned concerning refuse disposal practices.
	Federal Reformatory Petersburg, Virginia	Engineering study to be conducted concerning refuse disposal practices, excessive smoking from boiler plant, need for new boilers which will be gas fired or coal with suitable control equipment.
	U.S. Penitentiary McNeil Island Steilacoom, Washington	Engineering study of waste disposal to be made.

AGENCY	INSTALLATION	ACTIONS
Department of Justice Bureau of Prisons (Continued)	Federal Reformatory for Women Alderson, West Virginia	Engineering study to be made on boiler plant and refuse disposal practices.
	National Training School for Boys Morgantown, West Virginia	New facility. Engineering study planned for refuse disposal.
National Aeronautics and Space Administration	Michoud Assembly Facility New Orleans, Louisana	Funds requested for design in FY 1969. Scrubbers, filters and incinerators needed for unspecified operations.
	Goddard Space Flight Center Greenbelt, Maryland	Design for gas conversion of boiler plant has been completed.
	Langley Research Center Hampton, Virginia	Study of heating plant completed. No remedial action required on that plant.
Post Office Department	Post Office Fort Wayne, Indiana	Converted heating plant to burn natural gas

AGENCY	INSTALLATION	ACTIONS
Post Office Department (Continued)		
Alabama		Trash removal contracts were instituted to elimate open burning or faulty incinerations practices on premises of Post Office installations listed below. The contracts specify that ultimate disposal of materials removed must comply with local air pollution control regulations.
	Boaz	
	Jackson	
	Guin	
	Georgiana	
	Moulton	
Arkansas		
	Des Ark	
	Osceola	
Arizona		
	Apache Junction	
	Sedona	
California		
	Antioch	
	Apply Valley	
	Aptos	
	Atascadero	
	Benicia	
	Broderick	
	Capitola	
	Castroville	
	El Cajon	
	Escalon	
	Fairfield	
	Felton	
	Lathrop	
California (Cont.)		
	Livingston	
	Napa	
	New Castle	
	Orangeville	
	Orland	
	Pinedale	
	Soledad	
	Solvany	
	Sunnymead	
	West Sacramento	
Hawaii		
	Honolulu	
Iowa		
	Davenport	
	Des Moines	
	Carrier Annex	
	E. 14th Street	
	S. Des Moines Sta.	
	Urbandale Branch	
	University Place Sta.	
	Tama	
	Waterloo	
	Evansdale Branch	
	Washburn Branch	
Maryland		
	Beltsville	
Minnesota		
	Canby	
	Excelsior	
	Mound	
	Sauk Rapids	
	Silver Bay	
Missouri		
	Hayti	
	Imperial	
	O'Fallon	
	Portageville	
	East Prairie	
	Salisbury	
	Sarcoxie	
North Dakota		
	Mandan	
	Minot	
Tennessee		
	Centerville	
	Jamestown	
	Mountain City	
	Parsons	
Wisconsin		
	Menomonee Falls	
	New Berlin	
Wisconsin (Cont.)		
	New London	
	New Richmond	
	Oak Creek	
	East Troy	
	Randolph	

AGENCY	INSTALLATION	ACTIONS
Tennessee Valley Authority	National Fertilizer Development Center Muscle Shoals, Alabama	Improvements reported affect the phosphate complex, ammonia complex, nitric acid complex, diammonium phosphate complex, nitrogen fertilizer complex and also reflect the establishment of a digital recording meteorological station as part of an air monitoring network. Specific improvements include reduction in dusts, fluorides, phosphorus oxides, ammonia, acids and oxides of nitrogen. Further reduction of dusts and fluorides are scheduled for the current year.
	Colbert Steam Plant Colbert, Alabama	Efforts are being made to up-grade the efficiency of electrostatic precipitators at this plant. Ammonia injection for conditioning flue gas was unsuccessful.
	Widows Creek Steam Plant Stevenson, Alabama	Ammonia injection systems to condition flue gas at units 7 and 8 were installed and resulted in improved efficiency of electrostatic precipitators. Work being continued toward further improvement.

AGENCY	INSTALLATION	ACTIONS
Tennessee Valley Authority (Continued)	Shawnee Steam Plant Paducah, Kentucky	Contract awarded for design and construction of 10 electrostatic precipitators. Tentative installation scheduled during outages occurring between August 1968 and December 1969.
	Gallatin Steam Plant Gallatin, Tennessee	Contract awarded for design and construction of electrostatic precipitators. Installation scheduled during March-November 1969.
	Power Building Chattanooga, Tennessee	Coal-fired boiler has been replaced with electric heating equipment.
Veterans Administration	VA Hospital Grand Junction, Colorado	Construction to convert boilers to gas fired units underway.
	VA Hospital West Haven, Connecticut	Construction to convert boilers to gas fired units underway.
	VA Center Dublin, Georgia	Construction for conversion of boilers from coal to gas underway.
	VA Center Des Moines, Iowa	Boiler replacement project completed. New boilers are gas-fired.

AGENCY	INSTALLATION	ACTIONS
Veterans Administration (Continued)	VA Hospital Knoxville, Iowa	Construction for conversion of boilers from coal to gas underway.
	VA Hospital Louisville, Kentucky	Construction for conversion of boilers from coal to gas underway.
	VA Hospital Castle Point, New York	Discontinued incineration, disposing of waste by contract collection.
	VA Hospital Montrose, New York	Construction for conversion of boilers to gas-fired units underway.
	VA Hospital Durham, North Carolina	Design for conversion of boiler from coal to gas completed.
	VA Hospital Fayetteville, North Carolina	Construction for conversion of boilers from coal to gas underway.
	VA Hospital Fargo, North Dakota	Construction for conversion of boilers from coal to gas underway.
	VA Hospital Chillicothe, Ohio	Preliminary plans for replacement of boiler system completed. Discontinuance of open burning and installation of sanitary landfill completed.

AGENCY	INSTALLATION	ACTIONS
Veterans Administration (Continued)	VA Hospital Roseburg, Oregon	Project for boiler replacement completed. New boilers are gas-fired.
	VA Domicilliary White City, Oregon	Boiler replacement completed. New boilers are gas-fired.
	VA Hospital Aspinwall, Pennsylvania	Replacement of coal-fired boilers with gas-fired boilers completed.
	VA Hospital Erie, Pennsylvania	Construction for conversion of boiler to gas-fired units underway.
	VA Hospital Columbia, South Carolina	Boiler replacement construction underway. New boilers to be gas-fired.
	VA Hospital Mountain Home, Tennessee	Boiler plant replacement preliminary plans underway.
	VA Hospital American Lake, Washington	Open burning discontinued. Sanitary landfill has been completed.
	VA Hospital Spokane, Washington	Construction for conversion of boiler from number 6 oil to gas underway.
	VA Hospital Vancouver, Washington	Project drawings for conversion of boiler from coal to gas have been completed.

AGENCY	INSTALLATION	ACTIONS
Veterans Administration (Continued)	VA Hospital Huntington, West Virginia	Boiler replacement projects completed. New boilers are gas-fired.
	VA Hospital Madison, Wisconsin	Design for conversion of boilers from coal to gas completed.
	VA Hospital Tomah, Wisconsin	Construction to convert boiler to gas-fired units underway.
	VA Hospital Perry Point, Maryland	Construction has started on a new boiler plant.
	VA Hospital West Roxbury, Massachusetts	Boiler replacement completed. New boilers are gas-fired.
	VA Hospital Ann Arbor, Michigan	Construction to convert boilers from coal to gas underway.
	VA Hospital Battle Creek, Michigan	Construction for conversion of boiler to gas-fired units underway.
	VA Hospital Dearborn, Michigan	Installation of new gas-fired boiler completed. Construction for replacing refuse incinerator underway.
	VA Hospital Iron Mountain, Michigan	Construction for conversion of boilers to gas-fired units underway.

AGENCY	INSTALLATION	ACTIONS
Veterans Administration (Continued)	VA Hospital Jefferson Barracks St. Louis, Missouri	Construction for conversion of boilers to gas-fired units underway.
	VA Hospital Kansas City, Missouri	Construction for conversion of boilers to gas-fired units underway.
	VA Hospital Lyons, New Jersey	Construction for conversion of boilers to gas-fired units underway.
	VA Hospital Lexington, Kentucky	Construction for conversion of boilers to gas-fired units underway.